We claim

1. A method for generating or increasing the resistance to at least one pathogen in plants, which comprises the following operating steps

   a) reduction of the protein quantity, activity or function of an NADPH oxidase in a plant or a tissue, organ, part or cell thereof, and

   b) selection of the plants in which - in contrast or in comparison with the starting plant - the resistance to at least one pathogen exists or is increased.

2. The method according to claim 1, wherein the NADPH oxidase is encoded by

   a) polypeptide sequences comprising a sequence as shown in SEQ ID NO: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20 or 22, or

   b) polypeptide sequences of a functional equivalent of a polypeptide comprising a sequence as shown in SEQ ID NO: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20 or 22.

3. The method according to claim 2, wherein the functional equivalent has at least 50% homology with one of the polypeptides as shown in SEQ ID NO: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20 or 22.

4. The method according to any of claims 1 to 3, wherein the reduction of the protein quantity, activity or function of an NADPH oxidase is ensured by applying a method selected from the group consisting of

   a) introducing a double-stranded NADPH oxidase RNA nucleic acid sequence or (an) expression cassette(s) ensuring its expression,

   b) introducing an NADPH oxidase antisense nucleic acid sequence or an expression cassette ensuring its expression,

c) introducing an NADPH oxidase antisense nucleic acid sequence in combination with a ribozyme or an expression cassette ensuring its expression,

d) introducing NADPH oxidase sense nucleic acid sequences for inducing a cosuppression or an expression cassette ensuring their expression,

e) introducing DNA- or protein-binding factors against NADPH oxidase genes, RNAs or proteins or an expression cassette ensuring their expression,

f) introducing viral nucleic acid sequences and expression constructs bringing about the degradation of NADPH oxidase RNA, or an expression cassette ensuring their expression,

g) introducing constructs for inducing a homologous recombination at endogenous NADPH oxidase genes, and

h) introducing mutations into an endogenous NADPH oxidase gene.

5. The method according to any of claims 1 to 4, comprising

(i) the stable transformation of a plant cell with a recombinant expression cassette comprising, in functional linkage with a promoter which is active in plants, a nucleic acid sequence encoding

a) a double-stranded NADPH oxidase RNA ribonucleic acid sequence or

b) an NADPH oxidase antisense nucleic acid sequence or

c) an NADPH oxidase antisense nucleic acid sequence in combination with a ribozyme or

d) an NADPH oxidase sense nucleic acid sequence for inducing a cosuppression or

e) DNA- or protein-binding factors against NADPH oxidase genes, RNAs or proteins

f) viral nucleic acid sequences which bring about the degradation of NADPH oxidase RNA,

(ii) regeneration of the plant from the plant cell, and

(iii) expression of said nucleic acid sequence in such a quantity and for such a time as suffices for generating or increasing a pathogen resistance in said plant.

6. The method according to any of claims 1 to 5, wherein the pathogen is selected from the group consisting of bacteria, fungi, insects, viruses and nematodes.

7. The method according to any of claims 1 to 6, wherein the pathogen is selected from the group of the fungi consisting of Plasmodiophoramycota, Oomycota, Ascomycota, Chytridiomycetes, Zygomycetes, Basidiomycota and Deuteromyceten.

8. The method according to any of claims 1 to 7, wherein the plant is selected from among the monocotyledonous and dicotyledonous plants.

9. The method according to any of claims 1 to 8, wherein the plant is selected from the group of the monocotyledonous plants consisting of wheat, oats, millet, barley, rye, maize, rice, buckwheat, sorghum, triticale, spelt, linseed or sugar cane.

10. A double-stranded RNA molecule for reducing the expression of an NADPH oxidase protein comprising

a) a sense RNA strand comprising at least one ribonucleotide sequence which is essentially identical to at least part of the sense RNA transcript of a nucleic acid sequence encoding an NADPH oxidase, and

b) an antisense RNA strand which is essentially complementary to the RNA sense strand of a).

11. The double-stranded RNA molecule according to claim 10, wherein the two RNA strands of the double-stranded RNA are bonded covalently with one another.

12. The double-stranded RNA molecule according to either of claims 10 or 11, wherein one of the two RNA strands is encoded by at least a part of the nucleic acid sequence encoding an NADPH oxidase sequence as shown in SEQ ID NO: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19 or 21 or a functional equivalent thereof.

13. A transgenic expression cassette comprising, in functional linkage with a promoter which is functional in plant organisms, a nucleic acid sequence encoding a double-stranded RNA molecule according to one of Claims 10 to 12.

14. A transgenic expression cassette comprising at least a part of a nucleic acid sequence encoding an NADPH oxidase as shown in SEQ ID NO: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19 or 21 or a functional equivalent thereof, where said nucleic acid sequence is linked functionally in antisense orientation with a promoter which is functional in plant organisms.

15. The transgenic expression cassette according to claim 13 or 14, wherein the promoter which is functional in plants is a pathogen-inducible promoter.

16. A transgenic vector comprising an expression cassette according to any of claims 13 to 15.

17. A transgenic organism comprising a double-stranded RNA molecule according to any of claims 10 to 12, an expression cassette according to any of claims 13 to 15 or a vector according to claim 16.

18. The transgenic organism according to claim 17, selected from the group consisting of bacteria, yeasts, animals and plants.

19. The transgenic organism according to claim 17 or 18, selected from the group of the plants consisting of wheat, oats, millet, barley, rye, maize, rice, buckwheat, sorghum, triticale, spelt, linseed, sugar cane, oilseed rape, canola, cress, Arabidopsis, cabbages, soybeans, alfalfa, pea, beans, peanut, potato, tobacco, tomato, egg plant, capsicum, sunflower, Tagetes, lettuce, Calendula, melon, pumpkin/squash and zucchini.

20. A tissue, organ, part, cell, cell culture or propagation material derived from a transgenic organism according to either of claims 18 or 19.